## AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application. Please cancel Claims 24-36 without prejudice or disclaimer. Please add Claims 37-67. Support for the amendments and for new Claims 37-67 can be found throughout the specification of the application as filed. Accordingly, no new matter has been added to this application.

## Listing of Claims

Claims 1-36. Cancelled.

37. (New) A method of mixing two or more dissimilar fluids comprising:

(a) introducing one or more fluids into another fluid to form a mixture;

(b) introducing the mixture into a region comprising a plurality of cavitation zones to reduce at least one of the fluids to a large number of relatively small units, each cavitation zone having a void zone adjacent thereto; and

(c) distributing the small units substantially throughout the mixture.

38. (New) The method of Claim 37, wherein at least one of the fluids is a gas, and the gas is reduced to a large number of relatively small bubbles.

39. (New) The method of Claim 38, wherein at least one fluid is oxygenated by the gas.

40. (New) The method of Claim 38, wherein a component within the mixture is oxidized by the gas.

41. (New) The method of Claim 37, wherein at least two fluids are liquids and the method results in emulsification of the liquids.

42. (New) The method of Claim 37, wherein one of the fluids is an emulsion, and the method results in separation of the emulsion into its constituent components.

43. (New) The method of Claim 37, wherein one of the fluids is a liquid having particles suspended therein.

44. (New) The method of Claim 37, wherein one of the fluids is a liquid having particles suspended therein and one of the fluids is a gas, the method resulting in gas flotation of the particles to separate the particles from the liquid.

45. (New) The method of Claim 37, wherein one of the fluids is a heated gas and one of the fluids is a liquid, the method resulting in a transfer of heat from the heated gas to the liquid.

46. (New) The method of Claim 37, wherein one of the fluids is a fuel and one of the fluids is a gas, the method resulting in atomization of the fuel for enhanced burning efficiency.

47. (New) The method of Claim 37, wherein at least one of the fluids is ozone, oxygen, air, or any combination thereof.

48. (New) The method of Claim 37, wherein the mixture is a pulp slurry, wastewater, an emulsion, or a solution.

49. (New) The method of Claim 37, wherein at least one of the fluids contains pulp.

50. (New) The method of Claim 49, wherein the pulp is oxidized.

51. (New) The method of Claim 37, wherein the region comprises a chamber having a rotor formed with a plurality of irregularities, the irregularities on the rotor inducing cavitation within the mixture.

52. (New) The method of Claim 51, wherein the irregularities on the rotor comprise bores formed therein.

53. (New) The method of Claim 52, wherein cavitation occurs within the bores.

54. (New) A method of oxidizing a molecular compound within a fluid comprising:

(a) introducing an oxidizer into the fluid to form a mixture;

(b) introducing the mixture into a region comprising a plurality of cavitation zones to reduce the oxidizer into a large number of relatively small units and increase the total surface area of the oxidizer in contact with the fluid, each cavitation zone having a void zone adjacent thereto; and

(c) distributing the units of oxidizer substantially throughout the fluid.

55. (New) The method of Claim 54, wherein the fluid is a fuel to be burned and wherein the molecular compound, when not oxidized, generates environmental toxins upon burning of the fuel.

56. (New) The method of Claim 54, wherein the oxidizer is oxygen.

57. (New) The method of Claim 54, wherein the oxidizer is air.

58. (New) A method of mixing a gas and a liquid comprising:

(a) introducing the gas into the liquid to form a mixture;

(b) introducing the mixture into a region comprising a plurality of cavitation zones to reduce the gas to microscopic bubbles, each cavitation zone having a void zone adjacent thereto; and

(c) distributing the microscopic bubbles of gas substantially throughout the liquid.

59. (New) A method of conducting a chemical reaction between two or more dissimilar fluids comprising:

(a) introducing one or more fluids into another fluid to form a mixture, wherein at least one of the one or more fluids is chemically reactable with the another fluid;

(b) introducing the mixture into a region comprising a plurality of cavitation zones to reduce at least one of the fluids to a large number of relatively small units, each cavitation zone having a void zone adjacent thereto; and

(c) distributing the small units substantially throughout the mixture to conduct the chemical reaction.

60. (New) The method of Claim 59, wherein the at least one or more fluids has at least one reactant reactable with the another fluid.

61. (New) The method of Claim 59, wherein the at least one or more fluids has at least one first reactant and the another fluid has at least one second reactant reactable with the first reactant.

62. (New) A method of mixing two or more dissimilar fluids comprising:

(a) introducing at least one first fluid and at least one second fluid into a region comprising a plurality of cavitation zones to reduce at least one fluid of the at least one first fluid to a large number of relatively small units, each cavitation zone having a void zone adjacent thereto; and

(b) distributing the small units of the at least one fluid of the at least one first fluid substantially throughout the at least one second fluid to form a mixture.

63. (New) A method of oxidizing a molecular compound within a fluid comprising:

(a) introducing an oxidizer and the fluid into a region comprising a plurality of cavitation zones to reduce the oxidizer to a large number of relatively small units, each cavitation zone having a void zone adjacent thereto; and

(b) distributing the small units of oxidizer substantially throughout the mixture to oxidize the molecular compound.

64. (New) A method of mixing a gas and a liquid comprising:

(a) introducing the gas and the fluid into a region comprising a plurality of cavitation zones to reduce the gas to microscopic bubbles, each cavitation zone having a void zone adjacent thereto; and

(b) distributing the microscopic bubbles of gas substantially throughout the liquid.

65. (New) A method of conducting a chemical reaction between two or more dissimilar fluids comprising:

(a) introducing at least one first fluid and at least one second fluid reactable with the at least one first fluid into a region comprising a plurality of cavitation zones to reduce at least one fluid of the at least one first fluid to a large number of relatively small units, each cavitation zone having a void zone adjacent thereto; and

(b) distributing the small units of the at least one fluid of the at least one first fluid substantially throughout the at least one second fluid to conduct the chemical reaction.

66. (New) The method of Claim 65, wherein the at least one first fluid has at least one reactant reactable with the at least one second fluid.

67. (New) The method of Claim 65, wherein the at least one first fluid has at least one first reactant and the at least one second fluid has at least one second reactant reactable with the first reactant.